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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/398,624	09/17/1999	JAMES B. KELLER	5500-46200	1320

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EXAMINER
WAXMAN, ANDREW

ART UNIT	PAPER NUMBER
2667	

DATE MAILED: 09/03/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/398,624	KELLER ET AL.	
	Examiner	Art Unit	
	Andrew M Waxman	2667	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *25 June 2003* .

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-12,14-26 and 28-35* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *10-12,14-17,24-26 and 28-31* is/are allowed.

6)☒ Claim(s) *1,7,18,19,32,33 and 35* is/are rejected.

7)☒ Claim(s) *2-6,8,9,20-23 and 34* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other:

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1, 7, 18, 19, 32, 33, and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Birrittella et al., patent number 5,797,035, in view of Scott et al., patent number 5,748,900, herein after referred to as Birrittella and Scott respectively.

Regarding claim 1, Birrittella discloses a computer system and method including a first node and a second node (Fig. 6) both configured to transmit and receive packets (see col. 6 lines 55-61 and col. 10 lines 47-50). Both nodes also contain a plurality of control ('request' see col. 6 lines 55-61) and response virtual channels assigned to transmit and receive a variety of control (request) and response signals (see col 9 lines 45-63), and each of which is assigned a packet buffer (Fig. 14). Birrittella further discloses the response packet being a response to a first control ('request') packet (see col 6. lines 55-67).

Birrittella does not disclose response packets being stored in response buffers independent of which virtual channel the packet belongs.

Scott discloses storing response packets in a response buffer independent of which virtual channel the packet belongs (see col. 8 lines 9-17).

At the time the invention was made it would have been obvious to one of ordinary skill in the art to include the response buffer allocation scheme, as disclosed by Scott, in the computer system as disclosed by Birrittella.

One of ordinary skill in the art would have been motivated to do this in order to avoid deadlock, as stated in Scott col. 8, line 17.

Regarding claim 7, Birrittella further discloses each of the nodes configured to generate a first control (request) packet (see col. 6 lines 40-67).

Regarding claims 18 and 19, Birrittella discloses a computer system and method including a first node configured to transmit a first command (request) packet (see col. 6 lines 55-61 and col. 10 lines 47-50) in a first of a plurality of virtual channels ('request' see col. 6 lines 55-61). A second noe to receive the first command (request) packet and generate a first response packet and transmit the first response packet using one of a plurality of response virtual channels (see col 6. lines 55-67 and col. 9 lines 45-60).

Birrittella does not disclose response packets being stored in response buffers independent of which virtual channel the packet belongs.

Scott discloses storing response packets in a response buffer independent of which virtual channel the packet belongs (see col. 8 lines 9-17).

At the time the invention was made it would have been obvious to one of ordinary skill in the art to include the response buffer allocation scheme, as disclosed by Scott, in the computer system as disclosed by Birrittella.

One of ordinary skill in the art would have been motivated to do this in order to avoid deadlock, as stated in Scott col. 8, line 17.

Regarding claims 32, 33, and 35, Birrittella discloses a node (Fig. 6) configured to transmit and receive packets (see col. 6 lines 55-61 and col. 10 lines 47-50). The node also includes a plurality of control ('request' see col. 6 lines 55-61) and response virtual channels assigned to transmit and receive a variety of control (request) and response signals (see col. 9 lines 45-63), and each of which is assigned a packet buffer (Fig. 14). Birrittella further discloses the response packet being a response to a first control ('request') packet (see col 6. lines 55-67).

Birrittella does not disclose response packets being stored in response buffers independent of which virtual channel the packet belongs, a first command packet being a read request and a second being a write request, and the response packet specifying a data packet also transmitted on the virtual channel.

Scott discloses storing response packets in a response buffer independent of which virtual channel the packet belongs (see col. 8 lines 9-17), a first command packet being a read request (VC0) and a second being a write request (VC1) (see col. 7 lines 53 – 64), and the response packet specifying a data packet also transmitted on the virtual channel (see col. 2 line 66 – col. 3 line 3).

At the time the invention was made it would have been obvious to one of ordinary skill in the art to include the response buffer allocation elements and scheme, as disclosed by Scott, in the computer system as disclosed by Birrittella.

One of ordinary skill in the art would have been motivated to do this in order to avoid deadlock, as stated in Scott col. 8, line 17.

Response to Arguments

Applicant's arguments filed 25 June 2003 have been fully considered but they are not persuasive.

Regarding claims 1-9 and 18-23:

Applicant has argued that Birritella in view of Scott fails to teach or fairly suggest, "each of said plurality of control packet buffers assigned to a different one of a plurality of virtual channels; and storing said first response packet in a response buffer."

However, the examiner contends that Scott does indeed fairly suggest a plurality of control packet buffers assigned to a different one of a plurality of virtual channels (col. 8 lines 9-17). Scott discloses specifically 10 large buffers and 10 small buffers "partitioned" among virtual channels (see col. 8 lines 5 – 6). Furthermore Scott discloses the ability to implement more buffers, and assign the buffers to a single virtual channel, all this done in order to avoid deadlock. Therefore the examiner maintains that Birritella in view of Scott does indeed fairly suggest, "each of said plurality of control packet buffers assigned to a different one of a plurality of virtual channels; and storing said first response packet in a response buffer," implementing an amount of buffers equal to the number of virtual channels and dedicating each one to a different virtual channels would clearly provide for a efficient and reliable way to prevent deadlock within the system.

Applicant has further argued that Birritella in view of Scott fails to teach or fairly suggest storing the first response packet in a response buffer "independent of which one of said at least two additional virtual channels said first control packet belongs to."

However the examiner contends that Scott makes no suggestion that the response virtual channel is dependant on which virtual channels the request belongs to, but instead what kind of response is being sent (see col. 7 lines 53 – 64). Therefore the examiner maintains that Scott

does indeed disclose storing the first response packet in a response buffer "independent of which one of said at least two additional virtual channels said first control packet belongs to."

Allowable Subject Matter

Claims 2-6, 8, 9, 20-23, and 34 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 10-12, 14-17, 24-26, and 28-31 are allowed.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew M Waxman whose telephone number is (703) 305-8086. The examiner can normally be reached on 9:00 - 5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chi Pham can be reached on (703) 305-4378. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-4700.

Andrew M. Waxman

CHI PHAM
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600 9/2/03